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## The Effect of Transformational Leadership on Innovation: Evidence from Lebanese Banks

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Sherine Al Ahmad <sup>1</sup>, Nasser Fathi Easa <sup>2</sup>, Nehale Mostapha <sup>3</sup>

**Abstract:**

**Purpose:** Transformational leadership (TL) has been recognized as one of the most important factors influencing innovation. It is argued that this style plays an essential role in developing the process, structure and climate for organizations to become innovative. This research aims to examine the impact of TL on two aspects of innovation namely product and process innovation.

**Design/Methodology/Approach:** The quantitative and explanatory analysis was taken by using the Structural equations modeling (SEM) with AMOS 20 to examine the relationship between TL and innovation. Research data were collected through a survey method. The sample result was determined by the probability stratified sampling technique of about 310 employees at 27 banks in Lebanon.

**Findings:** The findings confirmed the importance of TL in enhancing innovation in the banking sector. The main implication of the research highlights that individualized consideration is the most important predictor of product and process innovation followed by, inspirational motivation and idealized influence, respectively, whereas, intellectual stimulation has insignificant influence on product and process innovation.

**Practical Implications:** Findings point to how transformational style of leadership produces better outcomes for the banks by mobilizing employees to engage in innovative products and processes.

**Originality/Value:** These findings extend the understanding of the processes through which transformational styles of leadership stimulate innovation, and also highlight the benefits gained by cultivating more transformational styles of leadership to generate more innovative outcomes.

**Keywords:** Transformational leadership, product innovation, process innovation, banks, Lebanon.

**Paper type:** Research article.

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<sup>1</sup>Corresponding author, PhD Candidate in Business Administration, Beirut Arab University, Beirut, Lebanon, [sherine\\_chaar@hotmail.com](mailto:sherine_chaar@hotmail.com)

<sup>2</sup>Department of Business Administration, Faculty of Business Administration, Beirut Arab University, Beirut, Lebanon, [n.easa@bau.edu.lb](mailto:n.easa@bau.edu.lb)

<sup>3</sup>Department of Business Administration, Faculty of Business Administration, Beirut Arab University, Beirut, Lebanon, [nehale.mostapha@bau.edu.lb](mailto:nehale.mostapha@bau.edu.lb)

## **1. Introduction**

Today, the banking sector is facing global challenges resulting from the rapid changes in business environment (Jyoti and Dev, 2015). These changes are forcing the banking sector to be more innovative not only to gain but also to survive (Cheung and Wong, 2011; Pieterse *et al.*, 2010). As innovation becomes critical to the survival of organizations and a key factor in achieving competitive advantage, the major concern for managers now is how to boost the innovative behavior among employees (Han *et al.*, 2016). In the academic field, researchers were highly concerned in identifying the factors that stimulate and sustain innovation (Damanpour and Schneider, 2006). Leadership style has been recognized as one of the most important factors affecting innovation positively or negatively (Bojica and Fuentes, 2012; Mittal and Dhar, 2015).

Several leadership styles have been studied, however, the best-known leadership style and the most widely used in leadership literature that linked to innovation is TL (Alnesr and Ramzani, 2019; Michaelis *et al.*, 2010; Zheng *et al.*, 2016). This style plays an essential role in developing the process, structure and climate for firms to become innovative (Chan *et al.*, 2014; Yukl, 2013). TL develops a team attitude and spirit among members which enhances the generation of new ideas (Zheng *et al.*, 2016). Herrmann and Felfe (2013) pointed out that TL practice can stimulate employees to perceive the new task as a challenge that may foster employees' creativity and develop a creative work environment. TL acts as fuel for innovation by promoting Idealized Influence (ID), Inspirational Motivation (IM), Intellectual Stimulation (IS) and Individualized Consideration (IC) among an organisation's members (Bass and Riggio, 2012).

Within developing countries like Lebanon banking sector is facing rapidly changing challenges that require innovation. The banking sector is the core of the Lebanese economy, and banks represent a very active segment approximately 6.2% compared to other sectors (Hobeika, 2008; Sujud and Hashem, 2017). Prior to the civil war, the Lebanese banking sector was the most advanced banking sector in the Middle East, but it has been seriously affected by the war, as were all other sectors. In 2018, Global Innovation Index ranked Lebanon in the 90<sup>th</sup> place among 126 countries around the world. This implies that banks presently need to leverage innovation as a driving tool to survive and succeed in highly competitive environments (Maarouf, 2016). To achieve the desired outcomes, TL has been underlined as one of the most important strategic tools that enable innovation (Aragón-Correa *et al.*, 2007).

Previous research has recognized the relationship between TL and innovation (Fontana and Musa, 2017; Zheng *et al.*, 2016). Unfortunately, there is a dearth of empirical research within developing countries specifically Lebanon on this topic. The aim of this paper is to fill that void in the literature by exploring the impact of TL dimensions namely idealized influence, inspirational motivation, intellectual

stimulation and individualized consideration on product and process innovation within the financial services sector of Lebanon.

The article is organized as follows. A literature review along with specified constructs is presented first, followed by the development of the main and subordinate hypotheses. The research then describes the research method and results, followed by a discussion of the research's implications, limitations, and future directions.

## **2. Theoretical Framework**

Transformational leadership has been recognized as one of the most important factor influencing innovation (García-Morales *et al.*, 2012). Samad (2012) stated that TL is considered important to organizations as they integrate creative insight, persistence and are sensitive to their employees that prompt changes in management innovation regarding practices and processes. Zheng *et al.* (2016) argued that transformational leader by sharing goals, values and beliefs among team members encourages them to work together effectively and develop innovative ways to succeed. Through the TL, leaders can contribute to the employees' creativity by recognizing individual differences and encouraging more diverse approaches and perspectives (Guo *et al.*, 2016). Within banks context, Qabool and Jalees (2017) found that assisting employees to develop their skills may enhance their creativity, particularly thinking of new ways to do things and using their creative abilities when faced with challenges. Such leaders are also likely to display innovative work behaviour like idea generation, idea promotion and idea realization, both for self-enhancement and for developing the potential of their subordinates (Majumdar and Ray, 2011). Likewise, leadership through strategic, communicative, motivational and personal dimensions enables followers to work creatively in collective processes by encouraging idea generation (Chang, 2016).

The leadership concept had been defined in terms of traits, behaviour, influence, and situation, and accordingly, several styles had developed (Al-Husseini and Talib, 2016; Saenz, 2011). Among these styles, researchers and practitioners have acknowledged TL as an ideal style of leadership for managing organizational transformation and a style to be adopted as leaders strive to cope with the demands of globalization (Riazet *et al.*, 2012).

Bass and Riggio (2012) described TL as a process in which individuals are changed and transformed. It seeks to motivate followers to work beyond self-actualization and to stimulate positive change among them. Leaders raise individuals and groups above self-interests through mainly four different behaviors: idealized influence, inspirational motivation, intellectual stimulation and individualized consideration.

Idealized influence, emphasizes that transformational leaders behave as role models for their subordinates (Yukl, 2013). They are deeply admired, respected and trusted

(Guay, 2013). They are perceived by their subordinates as having outstanding competence, determination and high standards of ethical and moral behavior (Bass and Riggio, 2012). They argued that leaders have cleared vision and sense of purpose and act according to their deeply held value and belief (Bruch and Walter, 2007). In addition, these leaders sacrifice self-gain for the gain of others, consider subordinates needs over their own needs, and share success and risk with subordinates (Limsila and Ogunlana, 2008).

Regarding intellectual stimulation, leaders behave in ways that encourage followers to be innovative (Yukl, 2013). In practice, transformational leaders ask followers to think differently and to consistently question and develop their own values and assumptions. Leaders mutually work with their subordinates to look at problem in different way, suggest new methods to complete task, and seek different viewpoints in solving problems (Bass and Riggio, 2012). In this style, followers' mistakes are not criticized; instead creativity is openly encouraged (Avolio and Bass, 2002). Even though these leaders encourage subordinates to try new approaches, the emphasis is still on rationality (Limsila and Ogunlana, 2008).

With regard to inspirational motivation, leaders motivate and stimulate the followers by providing challenges and meaning to their work (Bass and Riggio, 2012). These leaders enable followers to involve in envisioning the future, encourage positive expectations about what requires to be performed and determine commitment to the shared vision (Northouse, 2018). It is argued that leaders with inspirational motivation encourage individual and team spirit and collaboration among members (Northouse, 2018). Bass and Riggio (2012) noted that this style can enhance followers' self-confidence to achieve goals. Such leaders, challenge followers with high standards, talk optimistically and with enthusiasm and provide meaning for the task (Bacha, 2014).

When practicing individualized consideration, leaders comprehends and shares others' concerns and considers each individual uniquely. Leaders act as coaches to raise the followers' needs in order to help them to become fully actualized (Lynch, 2012). They show support and recognize different needs, skills, and abilities of their subordinates (Bass and Riggio, 2012). By affirming subordinates' career needs and supporting them with a sense of increased capability to perform their duties. This concept reflects the consideration of followers' abilities and their level of maturity in order to determine their needs for future development (Bi *et al.*, 2012).

These four behavioral patterns perceived as reliable, dependable and trustworthy in resolving organizational challenges (Galuska, 2014). As such, for an organization to flourish in a fast-changing environment, leaders should make full practice of TL (Erkutlu, 2008). Therefore, the current research will focus on TL because of the components of idealized influence, inspiration, intellectual stimulation and individualized consideration, has been suggested as the optimum style for managing change.

Today's organizations are increasingly focusing on innovation as one of the major competencies required for its success in twenty-first century workplaces (Cekmecelioglu and Gonsel, 2013). Innovative organizations have the capacity to identify new opportunities, technologies, competencies and knowledge assets needed to achieve a competitive advantage (Teece, 2014).

Plessis (2007) defined innovation as the creation of new ideas, products and process which make organizational outcomes possible. De Jong and Hartog (2007) described innovation as the adoption of new products, process and the opening of a new market and their impact on organizational performance. Similarly, Andreeva and Kianto (2011) claimed that innovation refers to the recognition of new ideas, products, services and proper implementation of all these concepts to get new outcomes.

Prior studies have emphasized the importance of various kinds of innovation. For instance, Tidd and Bessant (2011) distinguished between incremental and radical innovation. Damanpour and Aravind (2012) focused on product and process innovation. Schilling (2010) adopted two dimensions, technical and administrative innovation. Hence, it is clear that there are different types of innovation, which vary according to the perspective of the researchers and their field of research.

However, it has been regarded that each kind of radical, incremental, technological or administrative innovation is generally associated to a product or process (Easa, 2012; Valle, 2009). Radical innovation refers to the introduction of new products or application of new processes (Herrmann *et al.*, 2007; Reichstein and Salter, 2006), while incremental innovation is the marginal development in the existing products or processes (Gatignon *et al.*, 2002; Reichstein and Salter, 2006). Technological innovations directly related to the organizational core work activity which comprise both product and process innovations (Jansen *et al.*, 2006; Easa, 2012), while administrative innovation indirectly related to the work activities which relates primarily to process innovation (Al-Husseini, 2014). Despite of different types of innovation, product and process innovation have been widely recommended and studied empirically in the innovation literature (Hoonsopon and Ruenrom, 2012; Liao and Wu, 2010). Accordingly, the current research will focus on discussing the innovation aspects based on product and process types which are highly integrated categories.

Research into product innovation found it to be of key interest because it is a critical antecedent to product success, which in turn is related with organizational success (Valencia *et al.*, 2010). Product innovation is the modifications made in the end consumer's product and service (Shavinina, 2003). Tsai *et al.* (2001) measured product innovation by the differentially of products in the market. Meanwhile, Cooper and Edgett (2009) measured it based on the novelty of new products introduced to the market in a timely fashion. Hung *et al.* (2010), on the other hand, focused on the number of products, and the speed of innovation.

For the purpose of this research, product innovation within the banking environment is defined as accepting, developing, and implementing new products. It is referred to the degree to which employees seek advanced solutions; develop new service and adopt latest technologies to meet clients need (Birasnav *et al.*, 2013; Easa, 2012; Liao *et al.*, 2017; Obeidat *et al.*, 2016). Regarding process innovation, Gunday *et al.* (2011) considered it as the application of new, considerably changed production methods and distribution means by making technical, equipment or software changes. Wong and He (2003) indicated that process innovation is the development of new production processes using new equipment and the reengineering of operational processes. This research considers process innovation to be focused on the adopt of novel ways of service, achieved by developing and using latest technology, and introducing changes in management structures, practices and techniques (Easa, 2012; Liao *et al.*, 2017; Obeidat *et al.*, 2016).

### **3. Development of Hypotheses**

Several studies have reported that TL is a critical enabler for product and process innovation. In particular, the relationship between the four components of TL: idealized influence, inspirational motivation, intellectual stimulation and individualized consideration in relation to innovation have been investigated.

Regarding idealized influence, leaders determine high standards for moral and spiritual behavior. Such leaders are esteemed, respected and trusted by subordinates (Northouse, 2018), and subordinates will try to imitate their leader. The central core of this phase is the creation of values which motivate and provide purposeful feelings in subordinates and impress them (Fernet *et al.*, 2015). It is found that this style of leadership plays a vital role in helping employees reach and exceed performance expectations, assisting them in both personal and organizational changes (Bai *et al.*, 2012).

Suifan and Al-Janini (2017) found that sharing the risks with subordinates and emphasizing the prominence of having a collective sense of the organization's mission, may encourage them to generate new ideas, create solutions to problems and challenge existing procedures. Besides, providing employees with a purpose that transcends their self-interest by appealing to their values, ideals and interests may increase their desire to generate innovative ideas (Jia *et al.*, 2018). Furthermore, sharing goals, values and beliefs among team members encourages them to work together effectively and develop innovative ways to succeed (Zheng *et al.*, 2016).

By practicing inspirational motivation, leaders inspire their followers through motivation so as a shared vision insight is facilitated and their commitment is enhanced (Frazier and Bowler, 2015). Thereby, leaders increase the individual and team spirit, strengthen the optimism of followers and encourage their followers about attractive future (Bigharaz *et al.*, 2010). Such leaders raise the understanding of their subordinates about organizational missions and inspire them to perceive the

vision (Northouse, 2018). Nusair *et al.* (2012) indicated that articulating a shared vision exhibited by top managers plays an important role in enhancing initiation and implementation of new ideas to attain the organization's objectives effectively. Meanwhile, Overstreet *et al.*'s (2013) findings suggested that giving encouragement and recognition to staff inspires them to be highly competent and innovative. Similarly, Zheng *et al.* (2016) claimed that developing a team attitude and spirit among team members enhances the generation of new ideas. Hazen *et al.* (2012) pointed out that leaders who display inspirational, and goal-oriented behaviours may enable organization to attain desirable outcomes by creating or adopting new products, processes, or systems.

By providing intellectual stimulation, transformational leaders stimulate followers to find out new solutions and rethink about solving organizational problems in an innovative way (Yukl, 2013). In this aspect, the leaders arouse their followers through precise questions, re-explaining the problems and approaching old situations with new ones. transformational leaders with Intellectual stimulation, motivate his followers to take their own decisions and to rethink traditional practices in a creative way (Weib and Sub, 2016). They challenge old assumptions, beliefs, and traditions, and encourages new ways of thinking (Guay, 2013). Through the behavior of intellectual stimulation, leaders can promote employees' creativity by questioning their assumptions and the status quo (Slatten and Mehmetoglu, 2015). Nusair *et al.* (2012) asserted that encouraging employees intellectually to challenge the current dynamic environment may motivate them to be more innovative.

Additionally, Paulsen *et al.* (2013) findings suggested that leaders who stimulate new ways of exploring problems may encourage the norm of creativity in an R&D organization climate. Besides, Jia *et al.* (2018) claimed that showing appreciation and empathy to employees may encourage them to challenge traditional ways and adopt new ones which lead to higher creativity. According to Suifan and Al-Janini (2017), leaders who prevent their employees from thinking outside the box, can hinder their employees' capability to create new knowledge and innovations.

Using individualized consideration, transformational leaders build individual relationships with their subordinates, and esteem their needs, skills, capabilities and ambitions in such a way that facilitates innovation (Bass and Riggio, 2012; Yukl, 2013). The aim of individualized consideration is determining the individuals' needs and strengths. Transformational leaders listen to and care about their followers' ambitions, and contributions, thereby stimulating them to reach their maximum potential (Saenz, 2011).

According to Nusair *et al.* (2012), developing a reciprocal and cooperative individualized relationship with employees and trying to fulfill their needs will improve their creativity. Similarly, Overstreet *et al.* (2013) asserted that treating staff as individuals, supporting and encouraging their skills may improve the innovation process. Moreover, Paulsen *et al.* (2013) revealed that helping employees to develop

their strengths will affect creativity and innovation particularly, introducing new ideas into the work setting systematically. Building one-to-one relationships with subordinates and realizing their different wants and aspirations will improve innovation in a significant manner (Suifan and Al-Janini, 2017). According to Michaelis *et al.* (2010), leaders, who boost employees' self-esteem, lead product innovation improvement within an organization.

Scanning the literature, the research so far mainly investigated the relationship between TL and different types of innovation such as radical and incremental innovation (Fontana and Musa, 2017); technical and administrative innovation (Chang, 2016) and exploitative and exploratory innovation (Zheng *et al.*, 2016). However, the relationship between TL with product and process innovations has not been examined in depth (Hussain *et al.*, 2017; Jung *et al.*, 2003). Therefore, there is a need for a comprehensive study examining the influence of each component of TL on innovation, particularly on product and process innovation.

The relationship between the two concepts has been studied theoretically (Nanjundeswara and Swamy, 2014; Sethibe and Steyn, 2015) and empirically (Bigharaz *et al.*, 2010; Jung *et al.*, 2008). It was particularly noted that in banks, research which linked TL and innovation adopted different approaches, differing from the current study approach. For instance, several studies defined TL in general (as a single-factor) and identified three components of innovation: idea generation, idea promotion and idea realization (Awais and Tipu, 2014; Qabool and Jalees, 2017).

Other studies, recognized the four dimensions of TL but identified innovation only in general terms (Khattak *et al.*, 2017; Teymournejad and Elghaei, 2017); or TL and innovation were both defined in general terms (Warit *et al.*, 2017). Meanwhile, Fontana *et al.* (2017) considered the entrepreneurial leadership style and recognized innovation through idea selection, idea development and idea diffusion. It is therefore necessary to conduct a study examining the influence of each component of TL on the product and process innovation in banks.

The majority of empirical studies to investigate the linkage between TL and innovation have focused on developed countries such as the USA (Gilley *et al.*, 2008; Overstreet *et al.*, 2013); Australia (Fitzgerald and Schutte, 2010; Paulsen *et al.*, 2013); Taiwan (Tung and Yu, 2016); and China (Jia *et al.*, 2018). However, the investigation of these phenomena in developing countries suffers from a lack of research (Al-Nasani, 2008; Suifan and Al-Janini, 2017). Therefore, it is highly recommended to extend this research to developing countries (Fritz and Ibrahim, 2010; Khan *et al.*, 2012; Qabool and Jalees, 2017). Lebanon, as one of the Arab and developing countries is a valuable model/sample. Based on the arguments above and notes, this research aims to investigate the following hypotheses:

**H1:** Transformational leadership positively influences product and process innovation in the banking sector in Lebanon.

This leads to the following sub-hypotheses:

**H1.1:** Idealized influence positively influences product innovation in the banking sector in Lebanon.

**H1.2:** Inspirational motivation positively influences product innovation in the banking sector in Lebanon.

**H1.3:** Intellectual stimulation positively influences product innovation in the banking sector in Lebanon.

**H1.4:** Individualized consideration positively influences product innovation in the banking sector in Lebanon.

**H1.5:** Idealized influence positively influences process innovation in the banking sector in Lebanon.

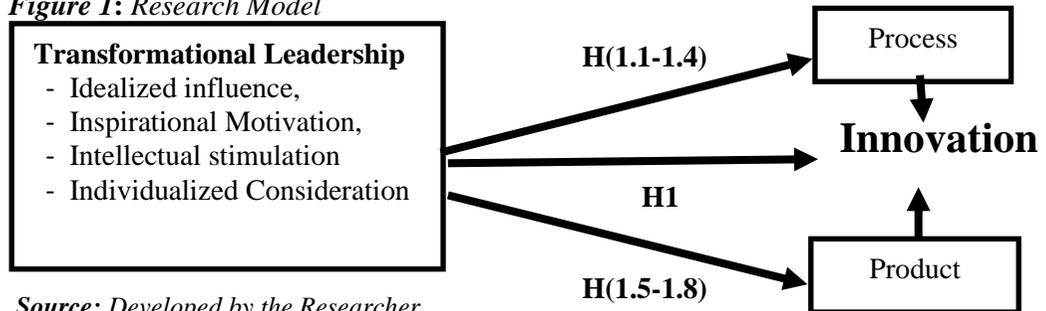
**H1.6:** Inspirational motivation positively influences process innovation in the banking sector in Lebanon.

**H1.7:** Intellectual stimulation positively influences process innovation in the banking sector in Lebanon.

**H1.8:** Individualized consideration positively influences process innovation the in banking sector in Lebanon.

The aforementioned hypotheses can be graphically summarized in the following research model (Figure 1).

**Figure 1:** Research Model



Source: Developed by the Researcher.

#### 4. Methodology

This research used quantitative method to examine the relationships between TL processes namely idealized influence, inspirational motivation, intellectual stimulation and individualized consideration and product and process innovation. A self-administered questionnaire and five-point Likert scales ranging from 1-strongly disagree to 5-strongly agree was used in this research. 600 questionnaires were sent to 35 Lebanese banks using e-mail method, of which 310 were returned and usable for analysis from 27 banks. These survey items are available for review in the

Appendix. TL was measured using the Multi-Factor Leadership Questionnaire (MLQ, Form 5X) developed by Bass and Avolio (2004). The MLQ has been used widely in previous research and considered the best validated measure of TL (Saenz, 2011). In all, 21 items covered four constructs as follows:

1. Idealized influence (six-items) is concerned with feeling proud of leader, building mutual respect; going beyond self-interest; displaying a sense of confidence and power; acting according to value and belief; and considering the ethical and moral effect in each decision.
2. Inspirational motivation (five-items) is concerned with articulating a convincing vision; enabling enthusiasm in what needs to be accomplished; expressing confidence in goals achievement; developing a team attitude and spirit; and talking optimistically about the future.
3. Intellectual stimulation (five-items), is concerned with encouraging their subordinates to look at problem differently; suggesting new ways to complete task; seeking different viewpoints in solving problems; rethinking ideas; and encouraging re-check ideas.
4. Individualized consideration (five-items) is concerned with leaders teaching and coaching; treating group's member as an individual; recognizing the different needs, skills and abilities; developing individual's capabilities; and helping getting what individual wants.

Innovation was measured using twelve items reflecting the development of new ideas related to product and process through adopting latest technologies; introducing new products/service into market; seeking advanced solutions to solve problems; adopting latest technology to improve process; introducing distinctive strategies to manage process; following flexible management strategies; introducing changes in management structures, practices and techniques; and adopting new marketing strategies in promotions and services. Product and process innovation items were developed from Birasnav *et al.* (2013); Easa (2012); Kim *et al.* (2012); Prajogo and Sohal (2006); Obeidat *et al.* (2016); Tan and Nasurdin (2010); Tsai *et al.* (2008).

The population for this research includes all employees of non-managerial level who work at Lebanese banks through the year 2018 in the Beirut district. A probability stratified sampling technique was adopted, where the entire population was divided into different subgroups. Respondents were proportionally targeted from the different subgroups. The resultant sample represented respondents from 27 banks. A total of 310 complete surveys were received of which 46% were male and 54% were female with the overall average age of 35 years. The following Table 1 represents some demographic descriptions of the sample (n=310):

- 80% Bachelor's degree, 14% Master's degree, and 6% high school diploma;
- 36% less than 10 years working experience, 47% 11–15 years work experience.

**Table 1. Demographic Statistics**

	Frequency (N=310)	Percent (%)
<b>Gender</b>		
Male	143	46%
Female	167	54%
<b>Marital Status</b>		
Single	140	45%
Married	162	53%
Divorced	4	1%
Widowed	4	1%
<b>Age</b>		
Below 30 years old	127	41%
30-35 years old	124	40%
36-40 years old	43	14 %
41-45 years old	13	4%
46 + years old	2	1%
<b>Work experience</b>		
Less than 10 years	113	36%
11-15 years	145	47%
16-20 years	41	13%
21-25 years	8	3%
More than 26	3	1%
<b>Education</b>		
Business	141	45%
Finance	90	29%
IT	26	9%
Law	11	4%
Other	41	13%
<b>Level of Education</b>		
High school diploma	18	6%
Bachelor's degree	248	80 %
Master's degree	44	14%
Doctorate's degree	0	0%

*Source: Developed by the Researchers.*

### 5. Empirical Analysis

The structural equation modelling (SEM) with Analysis of Moment Structures (AMOS) 21 was employed to examine the impact of idealized influence, inspirational motivation, intellectual stimulation and individualized consideration on product and process innovation. SEM consists of two steps: Measurement model to evaluate the validity and reliability of the constructs and structural model to test the causal relationships among factors (Hair *et al.*, 2013; Loehlin, 2012).

### 5.1 Measurement Model

The measurement model specifies the relationship between response items (observed variables) and their underlying latent variables (Blunch, 2012; Byrne, 2016). The two main criteria used to assess the measurement model include the goodness of fit of the model and the validity and reliability of the construct (Blunch, 2012; Schumacker and Lomax, 2016).

In this regard, Confirmatory factor analysis using AMOS 24 was conducted on all variables to ascertain the validity and reliability for each construct and goodness-of-fit (GOF). In examining the convergent validity, the average variance extracted (AVE) and factor loadings are assessed, the value deemed significant if they were 0.5 or higher (Hair *et al.*, 2013).

Six factors idealized influence, inspirational motivation, intellectual stimulation and individualized consideration, product innovation and process innovation were measured using 28 items. Reliability was evaluated based on the Cronbach's alphas and Composite Reliability (CR), each of which should be greater than 0.7 (Henseler and Sarstedt, 2013; Pallant, 2013). Table 2 indicates that the convergent validity and internal reliability were satisfactory. All factor loadings and the CR and AVE were acceptable and significant.

**Table 2. Validity and Reliability of the Measurement Model**

Factors	Code Item (see Appendix I)	Factor Loading (above 0.5)	AVE (above 0.5)	$\alpha$ (above 0.7)	CR (above 0.7)
Idealized Influence F1	ID1	0.736	0.599	0.854	0.832
	ID2	0.771			
	ID3	0.735			
	ID4	0.672			
	ID5	0.604			
Inspirational Motivation F2	IM1	0.653	0.598	0.811	0.712
	IM2	0.517			
	IM3	0.511			
Intellectual Stimulation F3	IS1	0.560	0.638	0.792	0.703
	IS2	0.691			
	IS3	0.539			
	IS4	0.594			
Individualized Consideration F4	IC1	0.576	0.612	0.786	0.718
	IC2	0.677			
	IC3	0.714			
	IC4	0.520			
Product innovation F5	PV1	0.670	0.594	0.901	0.854
	PV2	0.718			

	PV3	0.741			
	PV4	0.663			
	PV5	0.710			
	PV6	0.712			
Process innovation F6	CV1	0.658	0.714	0.902	0.828
	CV2	0.628			
	CV3	0.575			
	CV4	0.689			
	CV5	0.673			
	CV6	0.770			

Source: SEM - AMOS (21) Output.

Note:  $\alpha$ =Cronbach's alpha, AVE = Average Variance Extracted, CR = Composite Reliability, N= 310.

Discriminant validity was assessed based on rule Fornell and Larcker, 1981 (Hair *et al.*, 2013). According to them, the AVE should exceed 0.5 and should be greater than the squared inter-construct correlations. Table 3 displays that the variances extracted from the constructs were greater than all of the squared correlations between the items.

Table 3. Correlations between the Factors and AVEs

Factors	N=310							
	1	2	3	4	5	6	7	8
Idealized Influence	<b>.599</b>							
Inspirational Motivation	.063	<b>.498</b>						
Intellectual Stimulation	.072	.063	<b>.638</b>					
Individualized Consideration	.051	.087	.021	<b>.612</b>				
Product Innovation	.083	.071	.035	.211	<b>.594</b>			
Process Innovation	.236	.033	.056	.231	.126	<b>.714</b>		

Source: SEM -AMOS (21) Output

Notes: The bolded numbers in the diagonal row are the square roots of the average variance extracted (AVE). All correlations among variables are significant at 0.01 level (two-tailed).

The levels of goodness of fit for the measurement model was found to be acceptable, as shown in Table 4. There are two basic indices: (1) the fit indices, including, Goodness of Fit Index (GFI), Root Mean Square Residual (RMR) and Root Mean Square Error of Approximation (RMSEA) (Blunch, 2012); (2) the incremental fit measurement, which includes Adjusted Goodness of Fit Index (AGFI); and Comparative Fit Index (CFI) (Bryne, 2013). The model fit indices of TL constructs are as follows, GFI= 0.915; RMR= 0.027; AGFI= 0.882; RMSEA= 0.06; CFI= 0.947. For innovation the results were CFI = 0.935, RMR= 0.024; AGFI= 0.905; RMSEA= 0.065; CFI= 0.971. These results indicate that the model fits the sample data for banks.

**Table 4.** Fit characteristics Measurement Model First-Order

Fit Indices	N= 310		Recommended Criteria
	TL	Innovation	
<b>GFI</b>	0.915	0.935	≥0.85
<b>RMR</b>	0.027	0.024	< 0.05
<b>AGFI</b>	0.882	0.905	≥0.80
<b>RMSEA</b>	0.060	0.065	< 0.05-0.10
<b>CFI</b>	0.947	0.971	≥0.90

Source: SEM -AMOS (21) Output.

## 5.2 Structural Model and Test Hypotheses

The main aim of this research is to examine the impact of the four components of TL on product and process innovation in banks in Lebanon. The results from SEM demonstrate good fit indices adequate levels of fit for the model, as shown in Table 5. The model fit indices are CFI = 0.8,69 RMR= 0.027; AGFI= 0.844; RMSEA= 0.051; CFI= 0.948.

**Table 5.** Structural Model Fits for the Direct Relationship

Fit indices	N= 310		Recommended Criteria
	TL-Innovation		
<b>GFI</b>	0.864		≥0.85
<b>RMR</b>	0.031		< 0.05
<b>AGFI</b>	0.839		≥0.80
<b>RMSEA</b>	0.054		< 0.05-0.10
<b>CFI</b>	0.934		≥0.90

Source: SEM -AMOS (21) Output.

The results indicate that TL has a significant effect on innovation (product and process). The path coefficients of the impact of TL are confirmatory at these levels as shown in table (6), idealized influence, inspirational motivation, and individualized consideration are significantly and positively associated with product innovation ( $\beta=0.138$ , CR=3.364;  $\beta=0.165$ , CR=2.879;  $\beta$ ;  $\beta=1.108$ , CR= 8.614) respectively; whereas, contrary to expectation, the finding reveals a negative association between intellectual stimulation and product innovation ( $\beta=-0.210$ , CR=-3.225). This indicated that individualized consideration ( $\beta=1.108$ ) show the highest contribution to product innovation while intellectual stimulation ( $\beta= -0.210$ ) show significantly negative influence on innovation. Thus, the hypotheses (H1.1, H1.2, and H1.4) are supported; therefore, the more the idealized influence, inspirational motivation, and individualized consideration the more product innovation is; meanwhile the hypothesis (H1.3) of intellectual stimulation is not supported.

For the process innovation, of the TL dimensions, inspirational motivation ( $\beta=0.150$ , CR=2.209), individualized consideration ( $\beta=1.330$ , CR=8.749) demonstrate significant positive relationships with process innovation, whereas; intellectual

stimulation ( $\beta=-0.178$ ,  $CR= -2.333$ ) reveals significant negative predictive capability on process innovation. But only idealized influence ( $\beta=0.051$ ,  $CR= 1.052$ ) reveal an insignificant effect on process innovation. This indicated that individualized consideration ( $\beta=1.330$ ) show the highest contribution to process innovation while intellectual stimulation ( $\beta= -0.210$ ) show negative predictive on innovation. Thus, the hypotheses (H1.6, H1.8) are supported; therefore, the more the inspirational motivation, and individualized consideration the more product innovation is; except for hypothesis (H1.5 and H1.7) of idealized influence and intellectual stimulation are not supported.

**Table 6. Results for the Direct Effects of TL on Innovation**

Hypothesis	Hypothesis path	Estimate	CR	Resulting Support		
				Directional Correct?	Significant	Hypothesis Supported?
H1.1	Idealized → Product	0.138	3.364	Yes	***	Yes
H1.2	Inspirational → Product	0.165	2.879	Yes	*	Yes
H1.3	Intellectual → Product	-0.210	-3.225	No	**	No
H1.4	Individualized → Product	1.108	8.614	Yes	***	Yes
H1.5	Idealized → Process	0.051	1.052	Yes	NS	No
H1.6	Inspirational → Process	0.150	2.209	Yes	*	Yes
H1.7	Intellectual → Process	-0.178	-2.333	No	**	No
H1.8	Individualized → Process	1.330	8.749	Yes	***	Yes
H1	<b>TL → TL Innovation</b>	<b>0.804</b>	9.455	Yes	***	Yes

Source: SEM - AMOS (21) Output

Note:  $p^* < 0.05$ ,  $p^{**} < 0.01$ ,  $p^{***} < 0.001$ , CR=Critical Ratio, NS=Insignificance.

## 6. Discussion

The SEM findings provide strong evidence that TL positively influenced the innovation process and product within Lebanese banks. That is around 75% of innovative behaviour was explained by TL practices. The following part discusses the relationship between each of TL dimensions and innovation in more detail.

The finding of the quantitative data revealed that H1.1 provides evidence that idealised influence is positively related to product innovation while H1.5 showed that idealised influence has a non-significant impact on process innovation in the

banking sector in Lebanon. This indicates that employees are challenged to adopt innovative approaches in their work to introduce new product, such as generating new ideas, developing new services, embracing new solutions and adopting new technology, when they feel that their leaders trust them. This finding are congruent with the assertion that leaders with idealised influence enhance organisational change by effectively communicating a clear vision and creating a strong network with subordinates, leading to greater product innovation (Khalili, 2016; Liao *et al.*, 2017; Mittal and Dhar, 2015; Suifan and Al-Janini, 2017; Vaccaro *et al.*, 2012). On the other hand, the results also showed that employees' belief that the role modeling behavior displayed by their leader is important but, at the same time, is not enough for them to embrace new process innovation such as, adopting new marketing strategies, new technology to improve process, and following a formal process to improve its services to customers. These results are consistent with Orabi (2016) and Tharnpas and Boon-itt (2015) assertion that trust and respect may not always stimulate the willingness to accept the directives provided by their leader; as a result, leaders who practise idealized influence affect process innovation negatively.

The inspirational motivation is found to be positively related to product and process innovation in the banking sector. This indicated that leaders with inspirational motivation will motivates bank staff and enables them to achieve their greatest potential, thereby assist their bank in its quest for innovation, such as generating new ideas, developing new services, embracing new solutions and adopting new technology, and follows flexible strategies to deal with unexpected changes. These findings are inconsistent with Rafferty and Griffin's (2004) findings, which showed articulating a vision does not always have a positive influence on innovation. However, the results of this research are congruent with the assertion that leaders with inspirational motivation create environment that promote the inspiration and ability of organizational members to be innovative, which, in turn, can gives them direction for successfully developing new products and process (Herrmann and Felfe, 2013; Khalili, 2016; Michaelis *et al.*, 2010; Mittal and Dhar, 2015; Overstreet *et al.*, 2013; Suifan and Al-Janini, 2017; Vaccaro *et al.*, 2012; Zheng *et al.*, 2016).

Regarding intellectual stimulation, it showed a negative impact on product and process innovation. This suggested that the employees surveyed from banks in Lebanon believe that their supervisors behaviour of intellectually stimulating and suggesting new ways of looking at how to complete certain assignments does not motivate them to be creative, come up with new ideas and to adopt innovative approaches at work. In other words, employees are encouraged to seek different perspectives when solving problems and reframe old problems in new aspects and to rethink ideas that have never been questioned before, however, these doesn't help them to generate products and process innovation. As a result, they are not open to try new approaches: for example, generating new ideas, developing new services, embracing new solutions, adopting new technology and follows flexible strategies to deal with unexpected changes. These findings are consistent with Jaussi and Dionne's (2003) findings, which showed that intellectual stimulation leadership has

negative effect on innovation, and with Li *et al.*'s (2016) study, which indicated that intellectual stimulation did not produce a positive climate for individual innovation. However, these findings don't support previous research conducted by (Jia *et al.*, 2018; Garcia, Matias and Verdu, 2011; Paulsen *et al.*, 2013; Suifan and Al-Janini, 2017) who have suggested that leaders demonstrating intellectual stimulation are vital for innovation, particularly product and process.

The finding regarding individualized consideration demonstrates that it is positively related to process and product innovation in the Lebanese banking sector. This suggested that the employees surveyed from banks in Lebanon believe that their supervisors exhibited individualized consideration motivate them to be creative, come up with new ideas and to adopt innovative approaches at work, as such generating new ideas, developing new services, embracing new solutions and adopting new technology, and follows flexible strategies to deal with unexpected changes. These findings are inconsistent with Mokhber *et al.*'s (2015) findings, which showed that empowerment can have also negative consequences on innovation when the goals of followers are out of alignment or oppose the organization's goals, also with the finding of Jandaghi *et al.* (2009), which indicated that the unhealthy dependence of followers on leaders and the unwillingness to share power with followers may have negative impact on innovation. However, these findings confirm prior literature suggesting that leaders who use consulting, delegating, and supporting behaviour are able to foster the generation and application of ideas by employees (De Jong and Hartog, 2007; Jia *et al.*, 2018; Mittal and Dhar, 2015; Paulsen *et al.*, 2013; Zheng *et al.*, 2016).

## **7. Theoretical and Practical Implications**

The findings of this research have several implications for both theory and practice. This research examined the impact of TL on innovation in the banking sector in Lebanon. The findings of this research are significant and advances several contributions to the leadership, and innovation literature. From the theoretical perspective, previous research mainly conceptualizes TL in general (as a single-factor) and linked it with different type of innovation. However, this research is the first attempt to empirically test the roles of the different dimensions of TL on product and process innovation; specifically, it investigates how the components of idealized influenced, intellectual stimulation, inspirational motivation, and individualized consideration impact product and process innovation. The findings of this research confirm that the four components of TL (idealised influence, inspirational motivation, intellectual stimulation, and individualised consideration) influence product and process innovation, and help to provide a better understanding on how the four influential components within TL separately influence innovation.

The majority of empirical studies investigated TL in developed countries such as the USA (Gilley *et al.*, 2008; Overstreet *et al.*, 2013); Australia (Fitzgerald and Nicola, 2010; Paulsen *et al.*, 2013); Taiwan (Tung and Yu, 2016); and China (Jia *et al.*,

2018). However, this research investigated this phenomenon in Lebanon, as one of the Arab and developing countries. The findings indicate that, regardless of whether we are looking at a western or an eastern context, TL plays a significant role in promoting a supportive culture and that enhance both product and process innovation in Lebanese banking sector.

From a methodological perspective, this research attains validity and reliability TL and innovation construct in a new geographical region. This provides researchers and academics a valuable model of methodology that might utilize it to track the extent of TL and its effects on product and process innovation in other similar research. The use of quantitative research methods for this research, such as survey was vital for collecting more details about regarding the impact of TL practices on innovation. Survey helps explore the relationship between variables, and help in answering the questions of this research.

This research also provides practitioners with practical insights and suggestions that allow them to identify the style of TL behaviours that contribute in developing a supportive work environment promoting and maximising innovation. For the Lebanese banking sector, the results indicate that individualised consideration behaviour of TL is the most significant predictor of product and process innovation. Therefore, leaders in this sector would consider coaching, building participative individualized relationships through face-to-face communication to gives rise to novel ideas. Besides, tailored training and development programmes for their staff would fulfill their different needs, skills, and abilities which in turn support product and process innovation. This would allow staff to focus on the necessary competencies and capabilities each one have to generate new ideas and become more innovative.

Practicing inspirational motivation behaviour positively affected product and process innovation. Leaders might therefore need to articulate a stimulating vision of the bank future, develops a team attitude and spirit through working groups, project and teamwork would uphold innovative idea. Expressing confidence in employees' abilities and challenge them to a high standard would maximize the capability of generating novel products, services and ideas. Accordingly, this would create an affective commitment among employees to work towards the bank vision and will be motivated to overcome their natural resistance to try challenging work and new things thereby foster employees to come up with new ideas.

The research also found that employing TL behaviours based on intellectual stimulation negatively affected the innovation of product and process. To enable all staff to engage in innovation, banks need to create an innovative climate such as brainstorming sessions, which encouraged them to take initiative and risks, and will be challenged to seek innovative approaches in their work. It is suggested that through challenging the status-quo and encouraging problem reformulation, imagination, intellectual curiosity, and novel approaches will motivate employees to

seek alternative perspectives when solving problems and to consider different and new ways of completing assignments.

Exhibiting idealized influence behaviour is essential for product innovation rather than process innovation. It was found that there is a lack of applying process innovation. In order to enhance this kind of innovation, bank leaders might therefore need to build mutual respect; display sense of power and confidence, and instill pride among the employees to exert extra effort to generate creative ideas. It can be suggested that by creating opportunities for staff to talk about their ideas freely and being alert to changes in the business environment through discussions and negotiation session conducted in formal and informal meetings, this will motivate them to look for new product and adopt new technologies.

Further, this research found that each style of TL plays different role product and process innovation. In this regard, this finding suggests that bank needs to select a leader with the appropriate leadership style with which to achieve its specific objectives. For example, if the bank's objective is to introduce new products or services, then bank needs a leader with intellectual stimulation style who encourages employees to always seek alternative perspectives when solving problems and to consider different and new ways of completing assignments. In addition, bank would also need leader with inspirational motivation style who can set a specific and stable vision for the bank's future goals.

## **8. Research Limitations and Further Research**

Although this research provides a number of insights regarding the relationships between TL and innovation in the banking sector in Lebanon, it has its own limitations that should be recognized. This research is limited to focus on the TL style only, therefore it is recommended to explore the impacts of other type of leadership; namely transactional and laissez-faire leadership to discover which is the most influential on product and process innovation among employees. This research was constrained Lebanese banks; thus the results cannot be generalised to other sectors. However, the generalizability of TL and its impact on product and process innovation continues to strengthen as these and other research continue to test the boundaries of national and industry context. This research investigates quantitatively the relationships between TL and innovation among non-managerial employees.

Considering different managerial level, may provide a better understanding of the research topic. This research is limited to use a cross-sectional design, as a result the causal relationships may change in the long term; longitudinal study will overcome this limitation and establish the result. This research focus on the impact of TL on product and process innovation; therefore, it is recommended to consider other type of innovation such as administrative, technological, radical, incremental, exploitative and exploratory innovation.

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**Appendix 1: Questionnaire Items**

Construct	Code	Items
Idealized Influence	ID1	Makes us feel proud of working with him/her.
	ID2	Acts in ways that build mutual respect.
	ID3	Talks about his/her most important values and beliefs to us.
	ID4	Makes us go beyond our own self-interests for the group.
	ID5	Considers various ethical and moral effect in each decision
Inspirational Motivation	IM1	Develops a team attitude and spirit among us.
	IM2	Articulates a convincing vision of the bank future.
	IM3	Expresses confidence to us that we will achieve the goals.
Intellectual Stimulation	IS1	Suggests new ways of completing the tasks assigned.
	IS2	Enables to seek different viewpoints when solving problems.
	IS3	Encourages us to re-check whether our ideas are correct.
	IS4	Stimulates to rethink ideas that have never been questioned .
Individualized Consideration	IC1	Helps us to develop our capabilities.
	IC2	Treats as an individual rather than just as a member .
	IC3	Considers each one of us has different needs, skills, abilities.
	IC4	Finds out what we want and helps us to get it.
Product Innovation	PV1	Follows a formal process to generate and develop new ideas.
	PV2	Initiates the development of new services to meet customers' requirements and market trends.
	PV3	Adopts new technology to provide new services and to improve the current ones.
	PV4	Adopts new solutions to solve problems.
	PV5	Introduces new services into the market before its competitors.
	PV6	Provides new services to improve customers' access to services.
Process Innovation	CV1	Follows a formal process to improve its services to customers.
	CV2	Follows flexible management strategies to deal with unexpected changes.
	CV3	Provides improvements in its structures, practices and techniques.
	CV4	Introduces more developed strategies to manage its processes, in comparison with competitors' strategies.
	CV5	Adopts new marketing strategies in its promotions and services.
	CV6	Adopts new technology to improve its processes.